

Course Number: CS 2500

Course Title: Database Systems

Course Description:

Database management systems. Sequential storage devices. Physical characteristics of and data representation on random access storage devices. Inverted lists, multilist, indexed sequential, and hierarchical file structures. File I/O. Unscheduled laboratory. 3 credits. (3 plus 0)

Prerequisites: IS 1300 or CS 1300.

Credit hours: 3

Learning Outcomes:

Upon the successful completion of this course, students will be able to:

1. Explain the purpose of a database management system, and its advantages over a file system.
2. Specify the key components of the Relational Model and create an E-R diagram to express the information required by an enterprise.
3. Describe one-to-one, one-to-many, many-to-many unary, binary, and ternary relationships.
4. Differentiate using primary, candidate, and foreign keys in data relations.
5. Compose SQL data manipulation queries to retrieve, add, modify, and delete data.
6. Design a well structured relational database that employs data normalization and data integration techniques.
7. Construct a complete indexed database with multiple relationships using SQL data definition statements.

INDIANA**TECH**

College of Professional Studies

CS 2500 Database Systems

Online Syllabus Course Content

Instructor Information

Please see Professor Profile at the Blackboard instructional site.

Course Schedule

Please see Course Schedule in the Course Syllabus area of the Blackboard instructional site.

Online Course Policies

All the online courses taken by students are required to follow the policies posted online at <http://online.indianatech.edu/tech-policies/policies/> . Please review the posted policies carefully. If you are unable to abide by the policies listed, please contact the **Warrior Information Network (WIN)** at **888.832.4742** and request to withdraw from this course.

Textbook

Gillenson, M. (2012). Fundamentals of database management systems (2nd ed.). Hoboken, NJ: Wiley.

Grading Events & Grading Criteria

Unless otherwise specified, all assignments must be submitted via Blackboard.

Grading Events

Assignment	Points	Total points
Course Preparation Quiz	1 @ 10 pts	10
Examinations	2 @ 50 pts	100
Discussion posts and replies	2 @ 25	50
Assignments	8 @ 25 pts	200
Database Project	1 @ 150 pts	150
Total		510

Grading Criteria

Exams – (2 exams = 100 points).

There is a midterm and a final exam. Each of these exams contains multiple-choice questions, True/False and short answers. Exam questions will be randomly drawn from a larger pool of questions. All of the questions come directly from the publisher's test bank for this textbook.

- Midterm exam – covers Chapters 1,2,3 & 5
- Final exam – covers Chapters 4,6,7 & 8

These exams are timed. You will have one hour to complete each exam. Once you start the exam, you must complete it at that time. Whether complete or not, your answers will be automatically saved and submitted when time expires. Therefore, if you attempt to take the exam without adequate preparation, you will likely find that you do not have enough time to finish.

Discussion Board Assignments – (2 discussion boards = 50 points).

There are 2 graded discussion board assignments in this course. These discussion boards are worth a maximum of 2 points: up to 20 points for your initial posting, and up to 5 points for your response(s) to classmates.

Initial postings are due by midnight on the dates specified in the schedule.

All postings should be substantive (4-5 paragraphs) and include chapter ideas and concepts to support your answers. You are also encouraged to include any relevant personal or professional similarities and contrasts to help enrich the discussion.

You are also required to respond to classmates in each of these discussion boards. These responses are due no later than midnight on the dates specified in the schedule. You are asked to substantively respond to at least one classmate in each discussion board. A substantive response adds significantly to the discussion by building on your classmate's comments, noting similarities and differences, suggesting alternative solutions, pointing out problems, and even at times constructively disagreeing. When responding to a classmate's posting, please include their name (i.e., Rebecca, I think you hit the nail on the head).

Please see the rubric posted in the Additional Resources folder under the Course Syllabus tab in the main menu of Blackboard for further details on grading.

There are also 2 ungraded discussion board assignments in this course – the self-introduction discussion board in Module 1 and the course feedback discussion board in Module 5.

Chapter Assignments (8 reports at 25 points each = 200 points).

There are eight-chapter assignments due in this course, as follows:

- Module 2 – Chapter 1 Mini-case, Chapter 3 Questions
- Module 3 – Chapter 2 Mini-case, Chapter 5 Mini-case, Chapter 6 Mini-case
- Module 4 – Chapter 4 Mini-case
- Module 5 – Chapter 7 Mini-case
- Module 6 – Chapter 8 Questions

These chapter assignments will consist of a set of selected questions, one or more exercises or a single chapter mini-case.

All chapter assignments are worth a maximum of 25 points. Please see the rubric posted in the Additional Resources folder under the Course Syllabus tab in the main menu of Blackboard for further details on grading.

No make-up or extra credit will be available at any time during the course.

Database Project (150 points):

You will be assigned a database project based on a case study that will be introduced in the first module and completed in phases throughout the course. Each phase will be given a grade and the final project will be given an overall grade. The project will consist of the following:

1. An Entity Relationship diagram representing the database design showing all necessary entities and their relationships
2. Conversion of E-R diagram into table structures with appropriate fields, primary and foreign keys and field types
3. All tables normalized in third normal form
4. Data definition (DDL) statements to create the tables and data manipulation (DML) statements to populate the tables.
5. Two examples of SQL statements to retrieve data from related tables

The project due dates are as follows:

- Module 4 – Relations, attributes, key fields, intersection data and relationships due (25 points)
- Module 5 – All tables normalized using third normal form and Entity Relationship Diagram due (25 points)
- Module 6 – Final project due (100 points)

Grading Scale

The following grading scale will be used to assign a grade at the end of the course:

Percentage Achieved	Grade	Percentage Achieved	Grade	Percentage Achieved	Grade
93% or above	A	80% or above	B-	70% or above	C-
90% or above	A-	77% or above	C+	60% or above	D
87% or above	B+	73% or above	C	Below 60%	F
83% or above	B				

Late Assignments

All assignments and required online activities are due according to the deadline listed in the course schedule. Granting deadline extension is the course instructor's autonomy.

Incompletes

If you are unable to complete the requirements for this course due to extenuating circumstances, an Incomplete grade (I) may be granted if you meet the general guidelines stated below.

General Guidelines for submitting a course incomplete request:

- More than 50% of the course session has elapsed.
- The student has encountered an unexpected situation that is beyond his or her control.
- The student is:
 - o in good academic standing -- up to date on all the course assignments and has at least an overall passing grade,
 - o able to complete all the remaining coursework within a session (5 weeks for an undergraduate course and 6 weeks for a graduate course) that immediately follows the session the student is currently enrolled, and
 - o able to provide support documentations to substantiate the need for extra time should a session is not enough to complete the course requirements.

If an Incomplete is granted, the instructor will set a deadline for all work to be completed. The deadline cannot go past one (1) session. All incomplete grades and deadlines are subject to approval by the designated university authority.

Course Related Communication

Online courses are conducted in an accelerated format. Timely communication is very important. When receiving emails from your classmates or instructor, please respond as soon as you can.

Students are REQUIRED to use their Indiana Tech email account for all course related communication. The most direct, and effective, way to email your course instructor and

classmates, is by using the Send Email function within the Blackboard course site. When you use the Send Email function, you automatically receive a carbon copy of the email you sent. In the event when you need to substantiate your claim that you did email your classmates or instructor, you can show that carbon copy to the person(s) who requested it. Please note that Blackboard only permits you to send email, it does not provide you with the check email function. All the emails your classmates and instructor send to you will be delivered to your Indiana Tech email account. You are strongly encouraged to check your Indiana Tech email account regularly, preferably several times a week, to minimize the likelihood of miscommunication.

The University policy requires each online course instructor to respond to a student's email within 24 hours. Unless there is an extraneous situation that prevents the instructor from following this rule, you can expect to hear from the instructor within 24 hours. If you don't receive a reply within 24 hours, please do not hesitate to follow up with another email or forward the carbon copy of the email you sent to OnlineSupport@IndianaTech.edu with a note "Please help. It's been 24 hours and I have not heard from my instructor" and the University support staff will act on your behalf to contact your course instructor.